

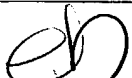


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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,885	01/24/2001	Kimio Inoue	202182US3	2548
22850	7590	04/14/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			SORKIN, DAVID L	
			ART UNIT	PAPER NUMBER
			1723	
DATE MAILED: 04/14/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/767,885	INOUE, KIMIO	
	<b>Examiner</b>	<b>Art Unit</b>	
	David L. Sorkin	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 1 is rendered indefinite by its preamble "A screw set in a twin-screw extruder...". It is unclear if the "twin-screw extruder" is required by the claim, or if the screw set is merely intended for use in the extruder. In other words, it is unclear if any additional structure beyond the "screw set" is required by the phrase "in a twin-screw extruder". Applicant has stated in paper No. 7 that claims 1-3 and 5-9 "clearly set forth the sub-combination of a screw set in a twin-screw extruder". While this statement successfully repeats the preamble, it does not indicate whether or not the phrase "in a twin-screw extruder" further adds structure to the sub-combination screw set. Again, in the response filed 25 February 2004 applicant refuses to clarify whether the claims require any structure in addition to the screw set, for example the extruder.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 6 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (US 5,947,593). Regarding claim 1, Inoue ('593) discloses a screw set in a twin-screw extruder comprising a rotor segment (a first segment 1b) comprising at least one kneading rotor having a plurality of blades which provide a plurality of tips (those of 7a,7b,7c) different from each other in the circumferential direction, said kneading rotor having a constant sectional shape (such as the cross-sectional shape of Fig. 4) in the axial direction, as viewed in a section transverse to the axial direction, and a screw segment (a second segment 1b) comprising at least one screw blade, said screw segment, except for crest portions, having the same sectional shape as said rotor segment comprising at least one kneading rotor, as viewed in a section transverse to the axial direction, except for crest portions (see col. 6, line 50-col. 7 line 6; Figs. 6-8). Regarding claims 2-3, the reference discloses that multiple segments may be used and that some or all may be in the form of "disks" (see col. 3, lines 27-32). Regarding claim 5, each counterclockwise, clockwise, and parallel blades are disclosed by the reference (see col. 10, lines 37-38, Figs. 6-9). Regarding claim 6, Figs. 6-9 each disclose both clockwise and counterclockwise blades. Regarding claim 8, the set comprises two kneading blades (see col. 5, lines 20-23). Regarding claim 9, the set comprises three kneading blades (see col. 5, lines 20-23). Regarding claim 10, Inoue ('593) discloses a twin-screw extruder comprising a barrel (3) having two intercommunicating chambers (4); and a screw set (1) rotatably mounted in each of said chambers so as to mesh with one another (see col. 12, lines 1-13); each screw set comprising a rotor segment (a first segment 1b) comprising at least one kneading rotor

having a plurality of kneading blades which provide a plurality of tip clearances (those of 7a,7b,7c) different from each other in the circumferential direction, said kneading rotor having a constant sectional shape (such as the cross-sectional shape of Fig. 4) in the axial direction, as viewed in a section transverse to the axial direction, and a screw segment (a second segment 1b) comprising at least one screw blade, said screw segment, except for crest portions, having the same sectional shape as said rotor segment comprising at least one kneading rotor, as viewed in a section transverse to the axial direction, except for crest portions (see col. 6, line 50-col. 7 line 6; Figs. 6-8). Regarding claim 11, the rotor segment provides tip clearances different from each other in the axial direction (see col. 3, lines 27-32; Fig. 1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,947,593). As stated above Inoue ('593) discloses all three types of blades. While Inoue ('593) does not explicitly disclose a specific segment having all three blades, it is considered that the embodiment of Fig. 12 together with col. 10, lines 37-38 would have suggested to one of ordinary skill in the art to include all three types in a segment.

***Response to Arguments***

7. Applicant states "the examiner cannot properly identify the rotor segment 1b as both a rotor segment comprising a at least one kneading segment and a screw segment". Of course, the examiner has not identified a single segment 1b as anticipating both the rotor segment and screw segment limitations, but instead has applied a first segment 1b as anticipating the rotor segment limitation and a second segment 1b as anticipating the screw segment limitation. Applicant states "The Inoue et al. reference refers to the element 1b as a rotor segment. It does not additionally identify this element as a screw segment". However, the reference clearly states: "The rotor segment 1b has three kneading blades ... Each kneading blade 7 is formed spirally". Applicant points out no reason why a segment of a "screw set 1", 1b, having spirally formed blades should not be considered a "screw segment".

8. Applicant states "this is not relevant to the claims, which do not mention the circumferential direction". However, claim 1 explicitly recites "a plurality of tips different from each other at least in the circumferential direction". Claim 10 recites the same phrase.

9. Applicant attempts to gloss over the materially contradictory statements that Dr. Inoue has made to the USPTO, by suggesting that a contradictory portion of the declaration filed 17 November 2003 was merely "exemplary". However, there is nothing exemplary about "In a screw segment, the helix angle is 8 to 25 degrees (72 [sic] to 65 degrees in twist angle). In a kneading segment, the twist angle is 10 to 40 degrees (50 to 80 degrees in helix angle)". Furthermore, the above 17 November 2003 statement

categorically contradicts the Dr. Inoue's previous statements as explained in the previous office action. No amount of spin can reconcile Dr. Inoue's statements. The examiner disagrees with applicant's suggestion that the contradictory statements of Dr. Inoue should be overlooked, while accepting the conclusions based thereupon.

10. Applicant states "There is no disclosure in Inoue et al of different tip shapes for the two rotor segments therein, which are identical, including the tips" (emphasis omitted). While this statement may be true, applicant does not relate this statement to the claimed invention.

11. Applicant again refuses to clarify whether claims 1-3 and 5-9 require any structure in addition to the screw set, for example the extruder. The preamble "A screw set in a twin-screw extruder..." is still considered indefinite because it is unclear if the "twin-screw extruder" is required by the claim, or if the screw set is merely intended for use in the extruder.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Sorkin

David L. Sorkin  
Examiner  
Art Unit 1723